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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,940	10/22/2003	Tukaram K. Hatwar	86669RLO	7698

7590

04/06/2005

Thomas H. Close  
Patent Legal Staff  
Eastman Kodak Company  
343 State Street  
Rochester, NY 14650-2201

EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/690,940

Applicant(s)

HATWAR ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-20 is/are rejected.
- 7) ☒ Claim(s) 9-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10-22-2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. It is suggested the status and/or application number(s) of related application information in the specification be updated by amendment.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "operative association" in part d) of claim 13 is considered vague and indefinite. It is unclear if the claim limitation requires the electron-transporting layer to be immediately adjacent to the cathode and either the yellow-light-emitting layer or the blue-light-emitting layer. Clarification and/or correction are required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5, 13, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Codama (US 6,091,196). Codama discloses electroluminescent devices emitting white light that may have a blue light emitting layer and a yellow light emitting layer (see col. 16, lines 29-

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34). Codama fails to teach an example comprising perylene; however, Codama does teach a fluorescent substance is included within the light emitting layer such as perylene derivatives (see col. 11, line 64 to col. 12, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected a perylene derivative for making an electroluminescent device, because Codama generally teaches that perylene derivatives are materials that may be used as the fluorescent substance of the device. Per instant claim 5, Codama further teaches a hole injecting and transporting layer is included in the device (see col. 11, lines 42-49) and a yellow light emitting layer may be included (see col. 16, lines 29-31). Per instant claim 13, Codama further teaches an electron transporting layer that may be provided separately from the light emitting layer (see col. 12, lines 19-28). Per instant claims 17 and 18, Codama teaches the hole transporting layer should be in contact with a light emitting layer (see col. 11, lines 42-45). Per instant claim 19, Codama teaches fluorescent material for the light emitting layer(s) may be from 0.1 to 10% (see col. 16, lines 38-41). The present specification on page 28 discloses an amount of perylene dopant that is considered non-luminescent is less than 5% by weight. Codama is deemed to teach fluorescent material in the light emitting layer within the range disclosed by applicant.

6. Claims 2-4, 6-8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Codama (US 6,091,196), and further in view of Toguchi et al. (US 6,753,097). Codama is relied upon as set forth above. Codama teaches perylene derivatives as the fluorescent material of the light emitting layer (see col. 11, line 64 to col. 12, line 11), but fails to teach the specific perylene derivatives of claims 2-4, 6-8, and 20. Toguchi et al. teaches in analogous art perylene derivatives for the light emitting layer of an organic electroluminescent device according to

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formula C1 (see abstract). Any one of R<sup>5</sup> to R<sup>12</sup> may combine to form a ring, which would include benzoperylene, dibenzoperylene, and tribenzoperylene (see col. 3, lines 58-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected one of benzoperylene, dibenzoperylene, or tribenzoperylene for the perylene derivative of the Codama device, because Toguchi et al. teaches the perylene derivatives are suitable for a light emitting layer of an organic electroluminescent device.

***Allowable Subject Matter***

7. Claims 9-12 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (claims 14-16 are rejected under 35 USC 112, second paragraph, as set forth previously in this Office action). The prior art fails to teach or to render obvious the incorporation of perylene derivatives within multiple layers of an organic electroluminescent device as specified in claims 9-12 and 14-16.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571)272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dawn Garrett  
Primary Examiner  
Art Unit 1774

D.G.  
April 4, 2005